

AD-A021 398

SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT,
CENTRAL AMERICA, 15 JULY 1975

K. J. Hill, et al

Teledyne Geotech

Prepared for:

Air Force Technical Applications Center

13 January 1976

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE

069161

(1)
NW

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
Central America, 15 July 1975

K.J. Hill, M.S. Dawkins, R.R. Baumstark, and M.O. Gillispie
Alexandria Laboratories

Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314

January 1976

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

Sponsored By
The Defense Advanced Research Projects Agency
Nuclear Monitoring Research Office
1400 Wilson Boulevard, Arlington, Virginia 22209
ARPA Order No. 2897

Monitored By
VELA Seismological Center
312 Montgomery Street, Alexandria, Virginia 22314

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U S Department of Commerce
Springfield, VA 22151

D D C
RECEIVED
MAR 4 1976
REGULATED
C.

jo

ADA021398

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER SDCS-ER-75-54 ✓	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) <i>Event Report</i> Central America, 15 July 1975		5. TYPE OF REPORT & PERIOD COVERED Technical ✓
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Hill, K. J., Dawkins, M. S., Baumstark, R. R. and Gillespie, M. D.		8. CONTRACT OR GRANT NUMBER(s) F08606-74-C-0013 ✓
9. PERFORMING ORGANIZATION NAME AND ADDRESS Teledyne Geotech ✓ 314 Montgomery Street Alexandria, Virginia 22314		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS T/4703
11. CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Agency Nuclear Monitoring Research Office 1400 Wilson Blvd.-Arlington, Virginia 22209		12. REPORT DATE 13 January 1976
		13. NUMBER OF PAGES 20
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) VELA Seismological Center 312 Montgomery Street Alexandria, Virginia 22314		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		

SDCS EVENT REPORT NO. 54

Central America, 15 July 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	"P" Arrival	Origin Time	Lat.	Long.	m_b	M_s
NORSAR	16:06:29.4	15:53:44	05 N	083 W	5.3	N/A
Hagfors	16:06:36.2	15:53:53	06 N	079 W	5.2	4.8

Using SDCS stations, LASA and NORSAR, the epicenter location and magnitudes become

15:53:51.5 07.7N 083.4W 5.1 5.1

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at CPSO, HN-ME, RK-ON, FN-WV, NORSAR and LASA. WH2YK short-period data were not recoverable because the station tape recorder was inoperative. Horizontal SP channels at CPSO, HN-ME, RK-ON, and FN-WV were rotated.

Long-period signals were recorded at CPSO, RK-ON, FN-WV, and LASA. WH2YK long-period data were not recoverable because the station tape recorder was inoperative. Horizontal LP channels at CPSO, RK-ON and FN-WV were rotated. ALPA and NORSAR long-period array data were not recoverable. LASA long-period array data are recoverable in segment lengths of 6 minutes 40 seconds; three segments are included in this report.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES		ELEVATION METERS	INSTRUMENTATION	
		DEG	MN SECS		SHORT - PERIOD	LONG - PERIOD
ALPA	Alaska	65 14	00.0 N 147 44 36.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35	41.4 N 085 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32	58.0 N 079 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41	19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
HN-ME	Houlton, Maine	46 09	43.0 N 067 59 09.0 W	213	18300	SL210 V SL220 H
NORSAR	Kjeller, Norway	60 49	25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H
RK-ON	Red Lake, Ontario	50 50	20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41	41.0 N 134 58 02.0 W	853	18300	SL210 V SL220 H

Note: The orientation of the radial instruments at FN-WV is assumed to be 316° + 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 15 JUL 75
 15:54:30.0 7.000N 84.000W 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CAIC	REST	REST	REST
CPC	15 59 40.0	-3.7	-2.1	27.8	356.2
FM-WV	16 00 09.9	-1.1	0.5	30.9	5.9
HM-ME	16 01 33.1	-0.4	1.2	40.6	16.5
LAC	16 01 57.1	-0.6	0.9	43.5	337.2
RK-OM	16 01 58.9	-1.4	0.1	43.8	350.6
NAC	16 06 29.4	-1.8	-0.6	85.4	29.4

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LCNG.	DEPTH (KM)	SDV	IT	STA
NC CONVERGENCE	CN CAIC	RUN				
15:54:12.4	8.166N	83.376W	132. CAIC	1.2	16	6
15:53:51.5	7.696N	83.369W	0. REST	1.2	3	6

CAIC
 3 . 3
 0 . 0
 0 0. 0 0

 0 0. 0 0
 0 . 0
 0 . 0

REST
 3 . 3
 0 . 0
 0 0. 0 0

 0 0. 0 0
 0 . 0
 0 . 0

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.18
 MAJOR 97.5KM. MINOR 61.0KM. AZ= 27 AREA= 18695 SQ.KM. REST

DATA SUMMARY

INPUT FOR EVENT 15 JUL 75
15:54:30.0 7.000N 84.000W 0RM.

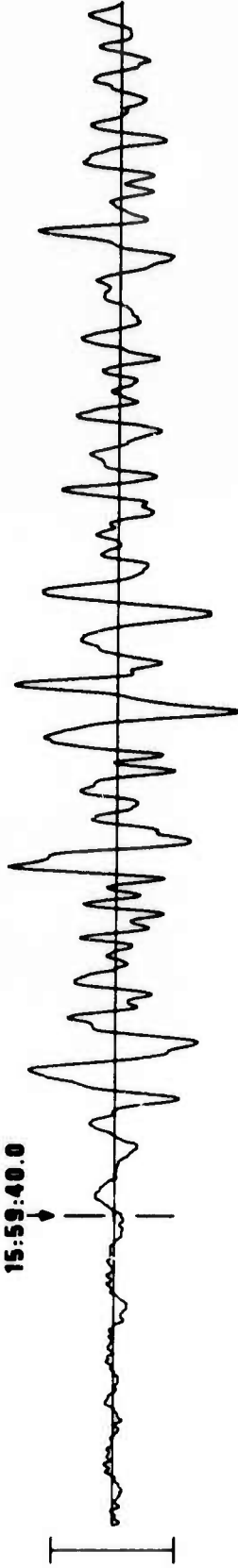
STA.	PHASE	ARRIVAL		INST	PER	A/T	MAGNITUDE		DIR	DIST
		TIME					MB	MS		
CFC	EP	15 59 40.0		SFZ	1.9	150.	5.46			27.8
CFC	LQ	16 10 17.0		LPT	19.0	510.				
CFC	LR	16 11 41.0		LPZ	18.0	327.		5.08		27.8
FN-WV	EP	16 00 09.9		SFZ	1.2	32.	4.90			30.9
FN-WV	LQ	16 11 42.0		LPT	19.0	747.				
FN-WV	LR	16 14 53.0		LPZ	18.0	463.		5.28		30.9
HN-ME	EP	16 01 33.1		SFZ	0.8	15.	4.33			40.6
LAC	EP	16 01 57.1		SAB	0.9	89.	5.15			43.5
LAC	LR	16 22 55.0		LPZ	21.0	254.		5.16		43.5
RK-CN	EP	16 01 58.9		SPZ	1.0	83.	5.12			43.8
RK-CN	LQ	16 19 00.0		LFT	20.0	260.				
RK-CN	LR	16 21 59.0		LPZ	20.0	154.		4.95		43.8
NAC	EP	16 06 29.4		AB	1.2	57.	5.42			85.4

ORIGIN	IAT.	ICNG.	DEPTH (KM)	MAG	SDV	STA	LP MAG	LP SDV	LP STA
15:53:51.5	7.696N	83.369W	0. REST	5.06	0.41	6	5.12	0.1	4

CPSO 15 JUL 75

**SPZ
49.12 MP**

15:59:40.0
↓



**SPR
21.02 MP**



**SPT
12.29 MP**



10 SEC

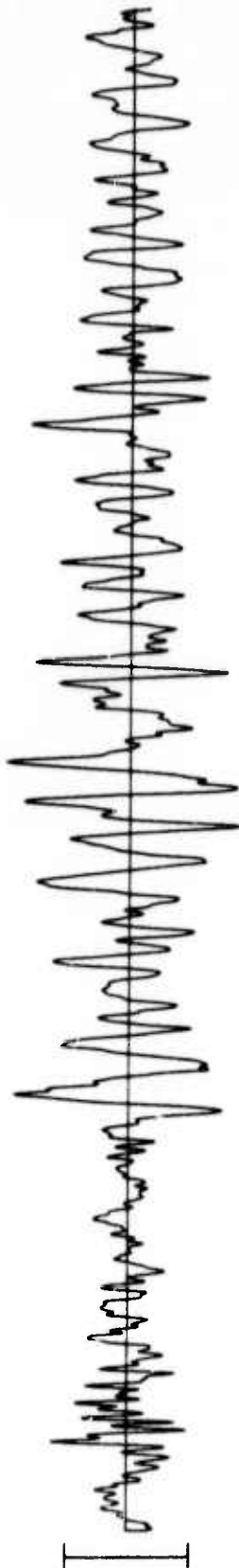
FN-WV 15 JUL 75

SPZ
23.41 MP

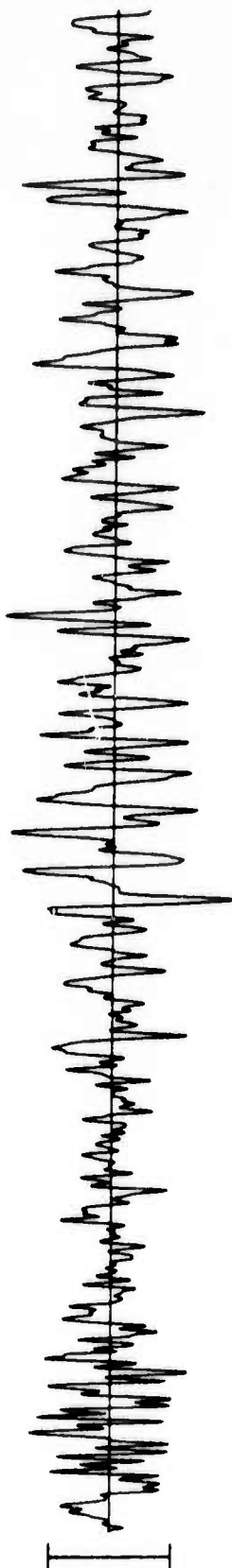
16:00:09.9



SPR
16.42 MP



SPT
12.18 MP



TIME



HN-ME 15 JUL 74

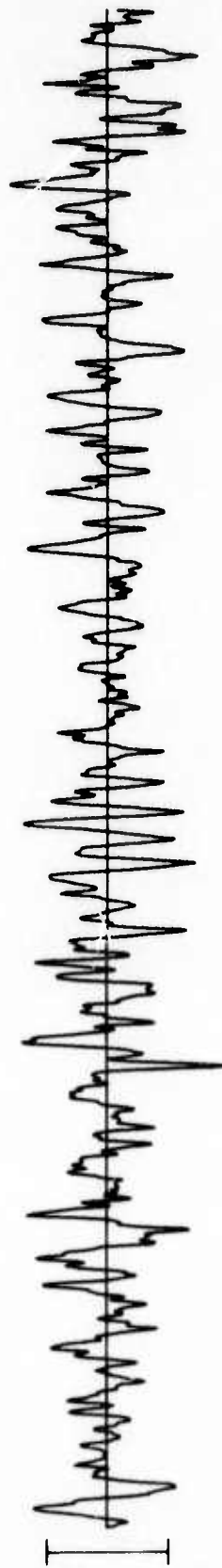
16:01:33.1



SPZ
16.20 MP



SPR
12.45 MP



SPT
9.59 MP

10 SEC

2<

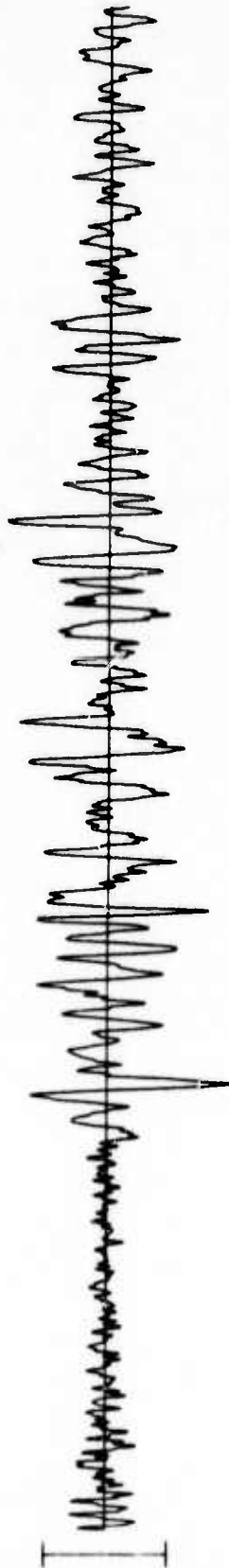
RK-ON 15 JUL 75

SPZ
52.98 MP

16:01:58.9



SPR
28.05 MP



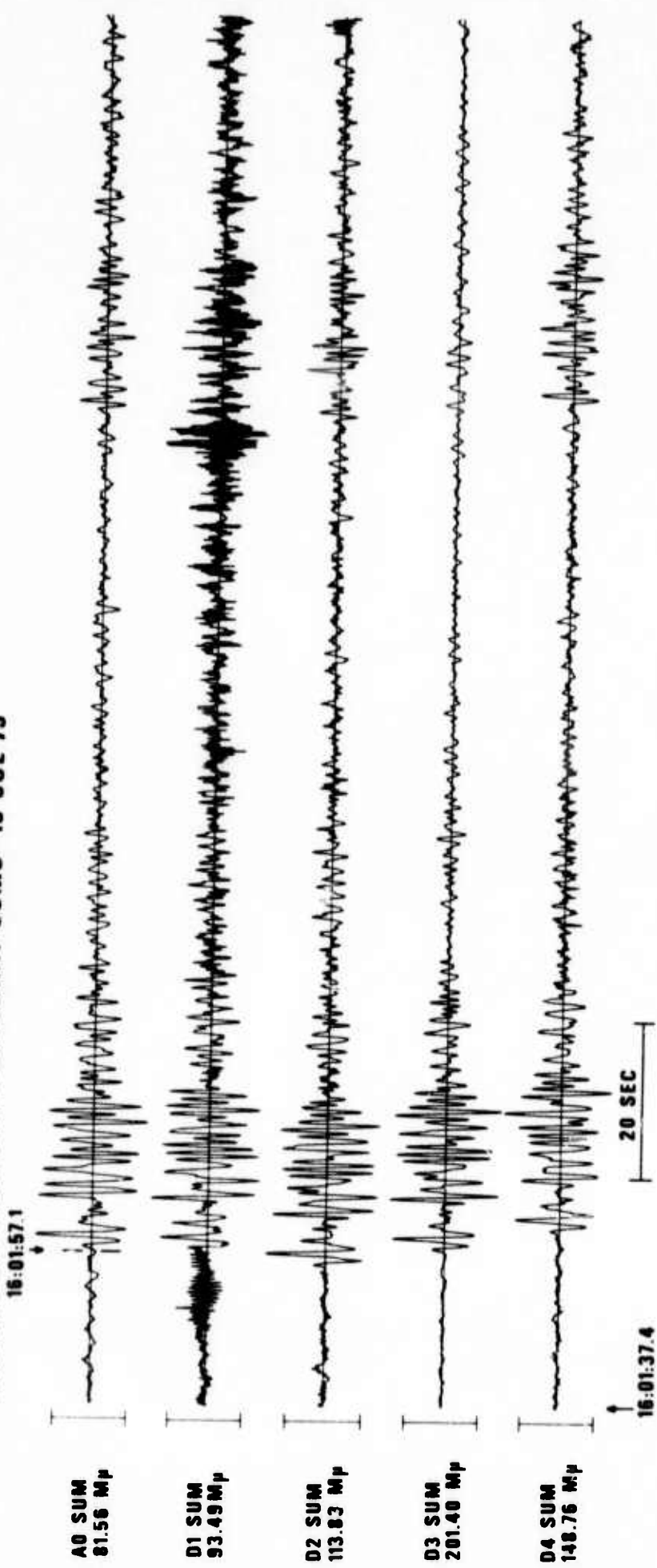
SPT
12.79 MP



TIME



LASA INFINITE VELOCITY SUBARRAY SUMS 15 JUL 75



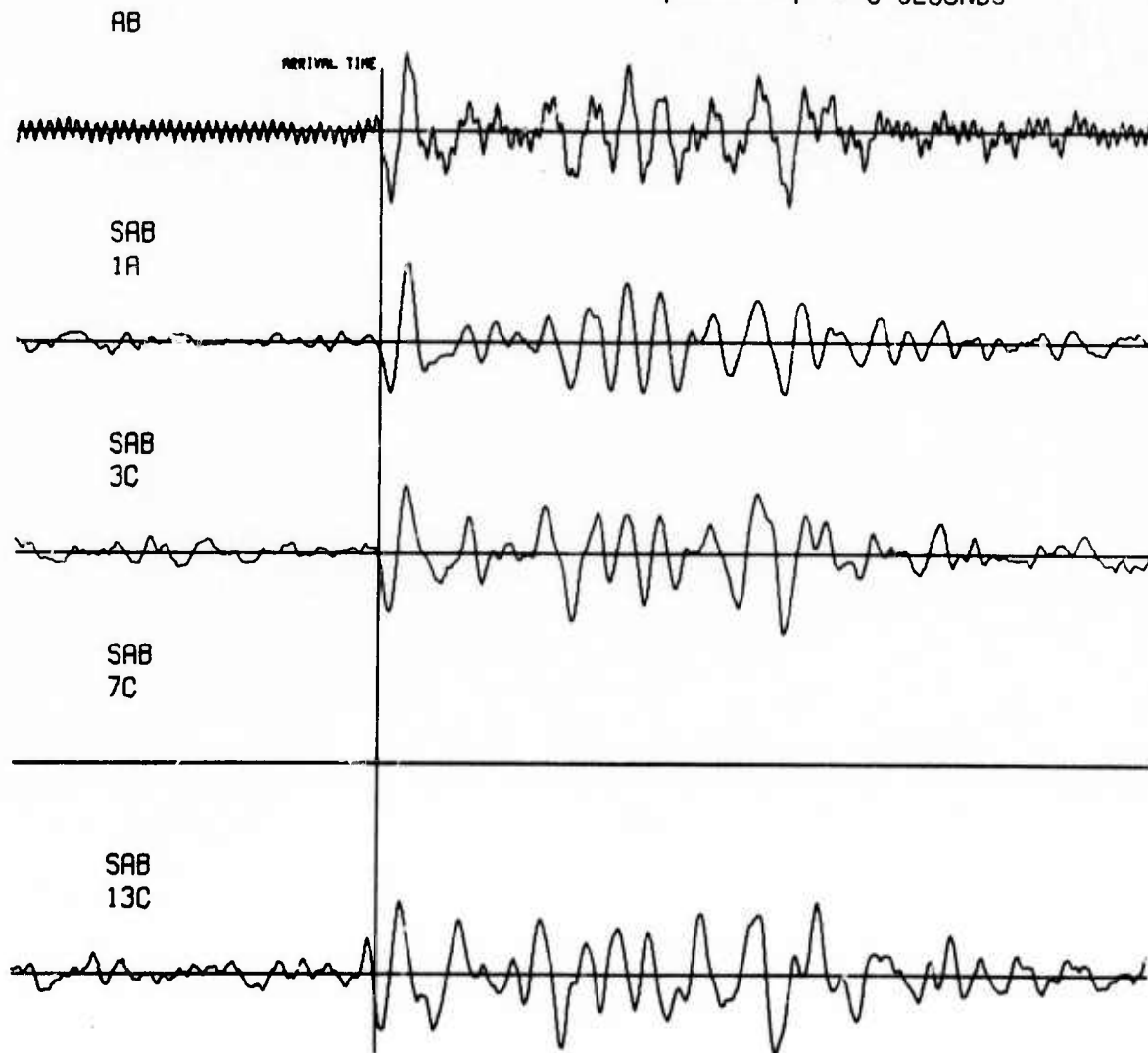
NORSAR EVENT FILE

1975 JUL 15

EPX NO. 28860 ARR. 16.6.30.0 4.1N 83.7W 5.0MB 33KM

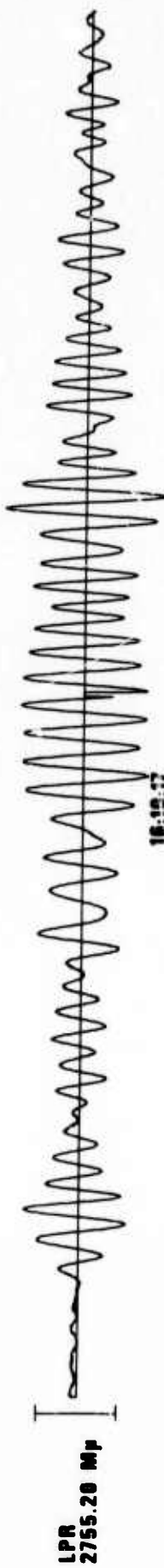
DIST = 88.6 AZI = 275.9 AMP = 13.0 PER = 1.2

— = 5 SECONDS

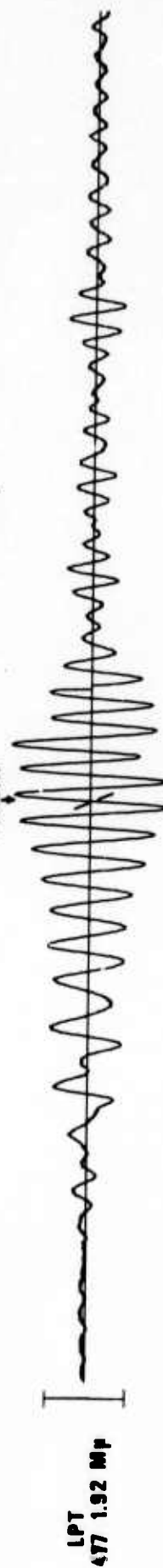


CPSO 15 JUL 75

16:11:41
↑



16:12:17
↑



TIME



2 MIN

16:10:00
↑

FN-WV 15 JUL 75

LPZ
3447.90 MP

16:14:53

LPR
2503.02 MP

16:11:42

LPT
6015.52 MP

TIME



16:15:00

RK-ON 15 JUL 75

LPZ
1666.51 MP

16:21:59



LPR
972.63 MP

16:19:00



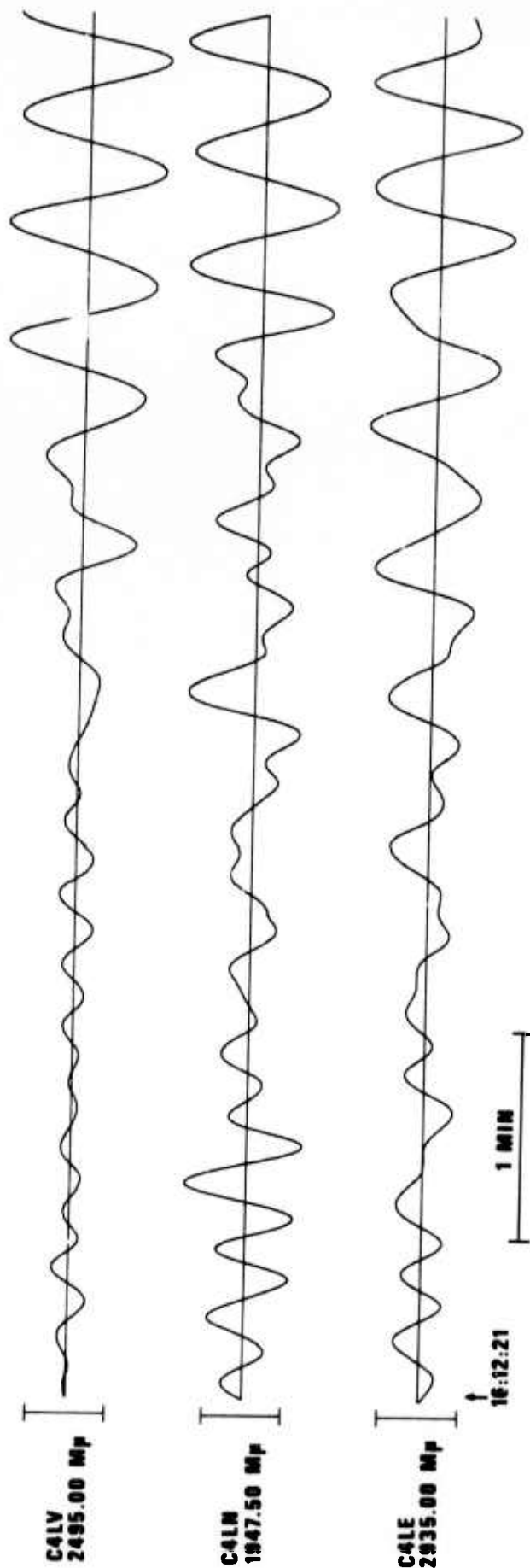
LPT
2724.43 MP



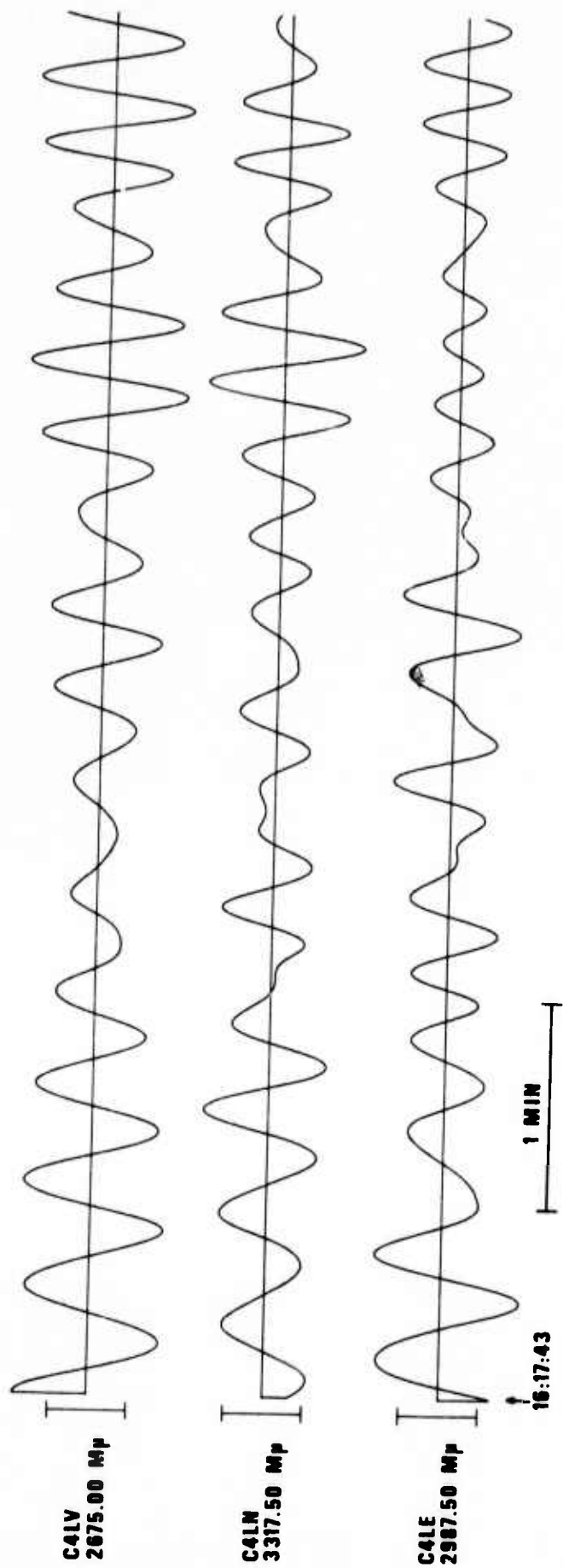
TIME



LASA LONG PERIOD C4 SUBARRAY (SEGMENT 1) 15 JUL 75

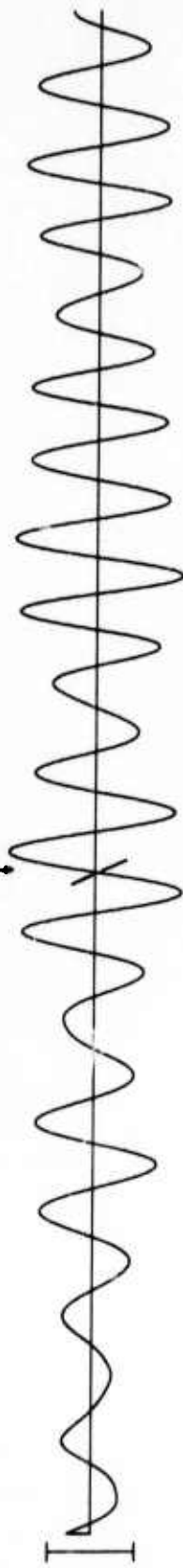


LASA LONG PERIOD C4 SUBARRAY (SEGMENT 2) 15 JUL 75

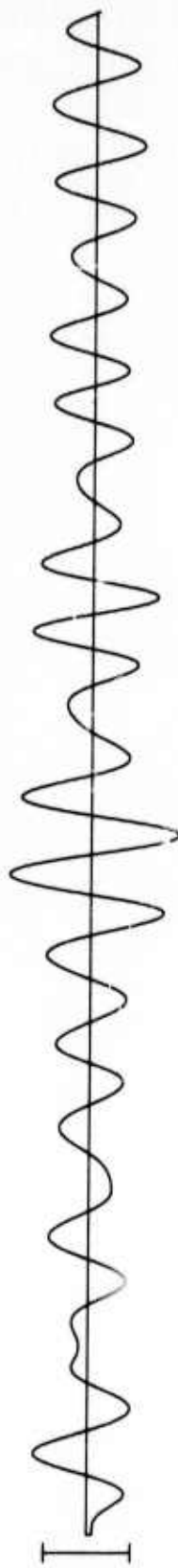


LASA LONG PERIOD C4 SUBARRAY (SEGMENT 3) 15 JUL 75

16:22:55



C4LV
2692.58 MP



C4LV
3342.58 MP



C4LE
2475.68 MP

16:20:00.0

1 MIN